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Deciding Fast: Examining the Relationship between Strategic Decision Speed and Decision Quality across Multiple Environmental Contexts

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Rapid innovation, shortened product life cycles and fierce competition place great pressures on top managers to make fast strategic decisions. However, a key question in strategic decision-making research is whether decision speed helps or harms decision quality, and there is a shortage of theory and evidence concerning the consequences of decision speed across different environmental contexts. We develop new theory by considering the effects of decision speed on decision quality under conditions of environmental munificence, under conditions of dynamism, and under the joint conditions of munificence and dynamism. We test our theory through analysis of multi-informant survey data drawn from top management teams and secondary databases, in 117 UK firms. Our findings demonstrate that munificence is the central generative mechanism which moderates the relationship between decision speed and decision quality, and markedly alters the previously theorized positive effects of decision speed in dynamic contexts.

Keywords: decision speed; environmental dynamism; environmental munificence; strategic decision-making; top management teams

Introduction

Fierce competition, rapid innovation, and shortening product life cycles place great pressures on top management teams (TMTs) to make strategic decisions rapidly (Yang and Meyer, 2015; Dykes *et al*., 2019), and consequently, decision speed is at the forefront of academic and practitioner debate (Hsieh *et al*., 2019). However, a central and unanswered question in strategic decision-making research, is whether decision speed helps or harms decision quality.

There are relatively few studies on strategic decision speed (Shepherd and Rudd, 2014; Dykes *et al*., 2019), and those few reveal conflicting results. For example, while prior research provides some indication of a positive link between decision speed and firm performance in dynamic environments (Eisenhardt, 1989; Judge and Miller, 1991), evidence also shows that decision speed damages new-venture success (Forbes, 2005) and leads to bankruptcy (Perlow *et al*., 2002). Moreover, there is a lack of theory and evidence concerning the effects of decision speed across different environmental contexts. Notwithstanding the theoretical insights provided by prior research, the focus has been on dynamic contexts (Treffers *et al*., 2020) and important environmental contingencies such as munificence have been over-looked (Kownatzki *et al*., 2013). This is problematic since munificence (and its antonym hostility) determines the level of resources, intensity of competition, and ultimately, the extent to which there are opportunities for firms to grow and make profit (Verbeke and Yuan, 2013). Consequently, low munificence punishes poor decisions, and decision processes appropriate in munificent contexts are

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altogether inappropriate in hostile environments (Rajagopalan *et al*., 1993). We argue that contradictions found in prior research are due to the absence of important dimensions of the external environment, such as munificence. Overall, there has been 'a lack of clear and systematic treatment of environmental variables: In the sense of focusing on some environmental variables … and failing to consider the effect of others' (Elbanna, 2006, p. 6).

Since the external environment is complex and multidimensional (Bradley *et al*., 2011; Rosenbusch *et al*., 2013; Elbanna *et al*., 2020), we contend that strategic decision-making theory can be advanced by considering environmental dynamism and munificence jointly, rather than separately (Elbanna, 2006). Crucially, considering only dynamism or munificence in isolation risks an overly simplified, incomplete account of the relationship between decision speed and decision quality (Goll and Rasheed, 1997; Shepherd and Rudd, 2014). We therefore answer multiple calls for studies to be more sensitive to the contingent role of context (e.g., Elbanna, 2012; Shepherd and Rudd, 2014; Strauch *et al*., 2019). To do so, we adopt a contingency approach, viewing the efficacy of fast decision-making as being dependent on prevailing environmental conditions.

Our study makes three significant contributions to strategic decision-making theory. First and most importantly, we consider environmental dynamism and munificence in conjunction rather than in isolation, to account for the nuanced influence of the external environment on the decision speed-quality relationship, (Hutzschenreuter and Kleindienst, 2006; Bradley *et al*., 2011; Rosenbusch *et al*., 2013). Specifically, we develop and test a theoretical model showing the effects of decision speed on decision quality under conditions of environmental munificence, under conditions of dynamism, and under joint conditions of munificence and dynamism (see Figure 1). Our theoretical account contends that while fast decision-making allows firms to seize first mover advantages in dynamic contexts (Eisenhardt, 1989), munificence is the central generative mechanism determining the extent to which firms can defend these advantages, and the degree to which they can rectify ineffective strategic choices. We argue that munificence profoundly influences managerial discretion (Hambrick and Finkelstein, 1987), and, environmental

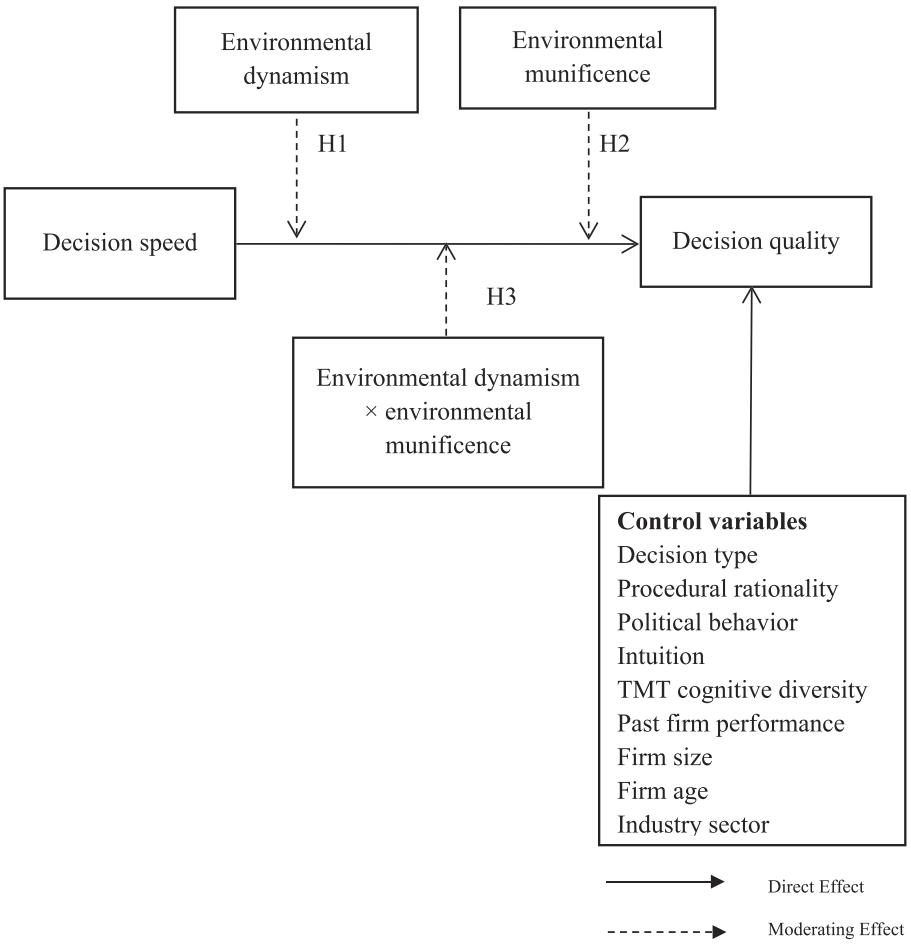

Figure 1 Theorized model of strategic decision speed

dynamism crossed with low munificence poses a highly complex and potent set of conditions, since the environment is not only threatening, but is also uncertain and frequently changing (Mitchell *et al*., 2011). Such conditions give rise to a myriad of potential decision biases (Schwenk, 1984; Kahneman and Klein, 2009), strain the social structure of the TMT (Staw *et al*., 1981; Whetten, 1987), and ultimately hamper a team's ability to mount effective strategic change rapidly (Hambrick, 1994).

Our second contribution is to advance current understanding of the determinants of strategic decision quality – and developing theoretical insights into the factors that help or harm the quality of strategic decisions is vital, because such decisions ultimately determine whether firms prosper or fail (Vandekerkhof *et al*., 2018). While research has largely focused on the effects of rationality, politics, and conflict on decision quality (e.g., Amason, 1996; Dean and Sharfman, 1996; Olson *et al*., 2007); there remains an absence of theory and evidence concerning the link between the speed with which top managers make strategic decisions, and the quality of those decisions. This represents a significant gap in theory, since top managers face competing demands of rapidly aligning their firms with prevailing environmental conditions so as not to fall behind competitors (D'Aveni *et al*., 2010), while avoiding the pitfalls of sacrificing information elaboration in order to gain speed (Kownatzki *et al*., 2013).

Third, we contribute to the longstanding debate concerning the relative explanatory capabilities of the strategic choice perspective (Child, 1972) versus the environmental determinism perspective (Hannan and Freeman, 1977). We enrich strategic decision-making theory by arguing that neither perspective alone is adequate for fully explaining the success or otherwise of strategic decisions. We contend that top managers do have a large degree of discretion in their ability to influence decision success, but only when the pace of their strategic decision-making is aligned with the prevailing environmental conditions.

We tested our theory using a sample of 117 strategic decisions from UK firms, utilizing different TMT informants for independent and dependent measures, supplemented with secondary data. We proceed as follows: the next section discusses the theoretical background to the study and our hypotheses, followed by a presentation of research methods and findings. The final sections discuss the findings and conclude the paper.

Theoretical background

While a number of studies have examined the antecedents of decision speed (e.g., Baum and Wally, 2003; Clark and Maggitti, 2012; Kownatzki *et al*., 2013), key questions remain concerning the implications of fast strategic decision-making, and in particular, the contingent influence of different environmental dimensions. Schumpeterian perspectives of competitive advantage emphasize the importance of decision speed relative to rivals – decisions must be made quickly enough to keep pace with the rate of change in the external environment in order to drive effective adaptation (Clark and Maggitti, 2012). Hence, decision speed is a key source of competitive advantage, enabling firms to respond rapidly to rivals' competitive moves (Souitaris and Maestro, 2010), capitalize on fleeting opportunities before they disappear (D'Aveni *et al*., 2010; Bakker and Shepherd, 2017), and gain first mover advantages by becoming early adopters of new technologies and processes (Makadok, 1998).

Despite the intuitive appeal of fast decision-making, the relatively few studies that have examined it focus primarily on the link between decision speed and firm performance, particularly in dynamic contexts (Kownatzki *et al*., 2013). Eisenhardt's seminal work (see Bourgeois and Eisenhardt, 1988; Eisenhardt, 1989) on firms operating in the high-velocity microcomputer industry observed a positive relationship between fast strategic decision-making and firm performance. The evidence provided in Eisenhardt's research was later corroborated by Judge and Miller (1991) and Baum and Wally (2003). Judge and Miller (1991) extend Eisenhardt's work by determining that decision speed has a positive association with performance in high velocity environments, but not in low velocity environments. Baum and Wally (2003) find a positive relationship between decision speed and a firm's growth and profit. However, Forbes (2005) presents evidence to the contrary, finding that new firms that make fast strategic decisions are *less* likely to survive. Additionally, Perlow *et al*. (2002) report evidence of a speed 'trap', in which the case study firm became caught in an increasing cycle of rapid decision-making that ultimately led to bankruptcy.

Furthermore, a substantial body of psychological literature has identified the pitfalls of rapid decision-making. The heuristics and biases program of research (Tversky and Kahneman, 1974; Kahneman *et al*., 1982) highlights cognitive biases that decision-makers fall victim to when making rapid decisions under laboratory conditions. Therefore, while there is some indication of a link between decision speed and firm performance, the evidence overall is equivocal, and indicates that the implications of decision speed are complex and conditional (Forbes, 2005).

Research suggests that decision speed is more advantageous in dynamic environments (Eisenhardt and Martin, 2000; Bakker and Shepherd, 2017), as it speeds

up executive learning and enables firms to quickly capitalize on opportunities (Judge and Miller, 1991). A commonly used analogy links firms that make rapid decisions to World War II fighter pilots, who 'win by making faster decisions which pre-empt the opposition's moves' (Bower and Hout, 1988, p. 110). Another important dimension of the external environment is hostility-munificence (Dess and Beard, 1984). A hostile environment is threatening and dangerous, with limited opportunities for firm growth (Thanos *et al*., 2017). In contrast, munificence refers to an environment's capacity to sustain firms and manifests itself in high sales growth (McKenny *et al*., 2018). Cautious strategic decision-making is critical in hostile environments, as one false move could mean the downfall of the company (Rajagopalan *et al*., 1993). As such, rushing into hasty, ill-conceived decisions puts firm survival at risk. Opportunities to rectify ineffective choices are infrequent, so firms in hostile environments may be best served by cautious analytical approaches.

Prior research has not examined interactions between speed and munificence, although Baum and Wally (2003), using a field experiment with hypothetical choices, do show evidence of a link between munificence and faster executive decision-making. Furthermore, prior research suggests that more complex interactions involving hostility-munificence can markedly affect strategic decision outcomes. For example, Mitchell *et al*. (2011) find that combinations of dynamism and hostility determine the extent to which top managers make erratic decisions, and Goll and Rasheed (1997) show that dynamism and munificence interact to influence the rationality-performance relationship. However, there remains an absence of theory concerning the influence of such three-way interactions involving decision speed.

Research hypotheses

Speed, decision quality, and environmental dynamism

'A classic trade-off noted by decision theorists is that decision accuracy is often inversely related to decision speed' (Dane and Pratt, 2007, p. 33). This so called 'speed-accuracy' trade-off has been much debated, and while there is increasing pressure to understand how organizations make decisions that are both fast and effective, there is a lack of knowledge and consensus concerning the particular circumstances that render fast decision-making more effective (Dane *et al*., 2012). Relatedly, research suggests that the relationship between decision speed and decision quality is contingent upon the prevailing environmental context (Elbanna *et al*., 2020), and in dynamic environments, change is unpredictable and occurs rapidly; hence firms must be quick to respond or they risk missing fleeting opportunities (Heavey *et al*., 2009; Li and Liu, 2014). Once a firm falls behind competitors, it can be impossible to catch up (Eisenhardt, 1989). Thus, being able to make strategic decisions quickly in dynamic environments can lead first mover advantages (Lieberman and Montgomery, 1988, 1998) in the form of: (1) early adoption of product or service innovations, or improved business models that offer competitive advantages (Jones *et al*., 2000; Baron and Tang, 2011); (2) early adoption of efficiency-gaining processes and technologies (Baum, 2000; Spanos and Voudouris, 2009); and (3) pre-emptive organizational restructuring that enhances economies of scale and knowledge utilization (Baum and Wally, 2003).

However, fast decision-making can undermine decision quality in dynamic environments, where information is often incomplete, unavailable, or rapidly becomes obsolete (Baum and Wally, 2003; Hough and White, 2003). Frequently this informational uncertainty can only be resolved by making a move, for example, entering a new market. However, this generates potentially useful information for rivals (Tran *et al*., 2012), meaning second movers can observe market responses and learn from the mistakes of the first mover (Zhu and Xu, 2011). Such considerations are particularly salient in new product launches where R&D costs are high, and later movers benefit from greater discretion concerning technology choice and internal organization, helping to avoid costly mistakes (Hoppe and Lehmann-Grube, 2001; Kopel and Löffler, 2008).

Furthermore, sacrificing information elaboration (Van Knippenberg *et al*., 2004) in order to expedite decision-making risks inadequate appraisal of decision options, and may result in the selection of sub-optimal alternatives (Kahneman *et al*., 1982; Mitchell *et al*., 2011) and a myriad of cognitive biases (Schwenk, 1984). These risks are amplified in dynamic environments, since there are unstable relationships between objectively identifiable cues and subsequent events, and between cues and outcomes of possible actions (Kahneman and Klein, 2009). Hence rapid decision-making in dynamic environments risks decision-makers over-looking entire aspects of the problem that might not be immediately obvious (Kahneman and Klein, 2010).

Further, strategic decisions are by definition high stakes (Eisenhardt, 1999), provoking conflicting viewpoints (Allison, 1971) and power struggles (Pfeffer, 1981). Hence, consensus building is a key – yet time consuming activity – which is vital to build commitment and pave the way for successful implementation (Kellermanns *et al*., 2011). Fast decision-making undermines consensus building, and if viewpoints are sidelined there is a heightened risk of dysfunctional intra-team behavior that might disrupt the decision (Kellermanns and Floyd, 2005) and ultimately damage decision quality.

However, not allowing for the potential joint influence of other salient environmental dimensions, we contend that fast strategic decision-making is most appropriate in dynamic environments because momentary opportunities can disappear suddenly (Forbes, 2005). Under such conditions, actions of competitors can be impossible to predict accurately, demand can be hard to forecast, and second-guessing customer requirements can be futile (Dess and Beard, 1984). Therefore, even if the initial strategic choice proves to be ineffective, decision-makers benefit from learning opportunities that enable them to rectify their actions. Hence, in dynamic environments, the most effective option for firms is to act quickly and remain ready to adapt should the decision initially prove unsuccessful (Baum and Wally, 2003). Fast decision-making also stimulates motivation, because proactivity and emphasis on 'doing' over 'planning' imbue the decision process with momentum and energy, signaling to employees that 'all talk and no action' is unacceptable (Pfeffer and Sutton, 2000). The preceding arguments suggest the following hypothesis:

Hypothesis 1. Decision speed has a stronger and more positive relationship with decision quality when environmental dynamism is high, than when it is low.

Speed, decision quality, and environmental munificence

Fast decision-making in low munificence (i.e., hostile) environments is dangerous – setting aside the potential influence of dynamism – because one false move could bring about the company's demise (Slevin and Covin, 1997; Elbanna and Child, 2007a). Such environments limit resources, intensify challenges, reduce profitability and, generally, allow much less discretion for top managers (Chassé and Courrent, 2018). Low munificence poses numerous threats to firms (Goll and Rasheed, 2005), so that cautious and analytical approaches may be most effective (Miller and Friesen, 1983; Elbanna *et al*., 2020). Indeed, organizations in such environments must dedicate more time and greater resources to planning, in order to develop a thorough understanding of opportunities and threats (Elbanna and Fadol, 2016) and greater effort must be expended to extract resources from such austere environments (Luo, 2000). Because acting quickly without deliberation risks wasting precious resources, top management should focus on resource conservation and pursuing only those strategic options that are competitive and economical (Miller and Friesen, 1983). In sum, nothing can be left to chance in highly threatening environments (Slevin and Covin, 1997).

Low munificence also threatens the identities of top managers as successful elites, straining the social structure of the team (Staw *et al*., 1981; Whetten, 1987), and a common response to low munificence is for CEOs to seize control and centralize power (Child, 1972; Yasai-Ardekani, 1989; Wally and Baum, 1994) in order to speed up decision-making. However, when CEOs constrict information flows, subordinated top managers' identities as central members of the dominant coalition come under threat, triggering behavioral dysfunctions within the TMT and jeopardizing decision quality (Edmondson *et al*., 2003). Therefore, a slower, more inclusive, consensus-building approach is required to reconcile divergent views and foster commitment (Dess, 1987; Sheremata, 2000) in the face of threatening and hostile conditions.

By contrast, not only does high munificence provide abundant resources and growth opportunities (Barbero *et al*., 2017), but empirical evidence shows that the relationship between an analytical approach and decision effectiveness is less positive in munificent environments (Elbanna and Child, 2007a). Hence, the basis of competitive advantage in such environments is the ability to act quickly and opportunistically. Competition is much less intense in munificent environments (Dess and Beard, 1984) and firms have reduced survival concerns (Baum and Wally, 2003), hence there is less incentive to dedicate extensive time and resources to analyzing competitors and trying to predict their likely response to any new strategic initiative. Firms are also better able to defend first mover advantages (Lieberman and Montgomery, 1988, 1998) in munificent contexts, *ceteris paribus*, as rivals pursue their own openings without having to imitate and attack competitors. In contrast, given the scarcity of opportunities in low munificence environments, firms reaping first mover rewards have only a limited amount of time before rivals begin to attack and imitate (Zhou, 2006).

It is also possible that speed is more vital in low munificence environments; because of the very limited prospects for growth (Wiklund *et al*., 2009), firms must be able to act quickly before opportunities are lost, or the wait until the next opportunity may be long. However, low munificence profoundly limits opportunities for rectifying ineffective decisions because firms lack the requisite resources (Rajagopalan *et al*., 1993), so that every decision must be thoroughly scrutinized and understood prior to its implementation (Miller and Friesen, 1983). By contrast, firms operating in more munificent environments have plentiful resources (Castrogiovanni, 1991), and are thus able to take remedial action to reverse or correct a strategic decision if its implementation has proven unsuccessful (Elbanna, 2012). Consequently, munificence enables decision-makers to act quickly without the need for extensive options analysis and evaluation (Baum and Wally, 2003). The preceding arguments suggest the following hypothesis:

Hypothesis 2. Decision speed has a stronger and more positive relationship with decision quality when environmental munificence is high, than when it is low.

The joint effects of environmental dynamism and munificence on the relationship between decision speed and decision quality

An environment low in munificence but high in dynamism poses a particularly potent, complex set of circumstances for TMTs to navigate, owing to the presence of severe threats (arising from low munificence), but with high uncertainty over their extent and form (stemming from dynamism) (Mitchell *et al*., 2011). Low munificence on the one hand increases perceived *risks* of failure (Baum and Wally, 2003), and on the other hand, dynamism heightens uncertainty concerning the possible *sources* of failure (Achrol and Stern, 1988). This combination heightens anxiety, resulting in innocuous situations being perceived as threatening, but also threatening situations being perceived as innocuous (Freeman and Freeman, 2008; Freeman *et al*., 2008a, 2008b). The net effect of heightened anxiety is a propensity for teams to circumvent information elaboration processes, and form snap judgments based on limited information (Freeman and Freeman, 2008), owing to an absence of reliable data concerning environmental threats (Mitchell *et al*., 2011).

When facing severe disruption caused by changing customer preferences (dynamism) and formidable competition (low munificence), there is an increased onus on TMTs to thoroughly surface team members' alternative perspectives in order to fully leverage their unique capabilities and knowledge resources (Resick *et al*., 2014). Hence, bypassing information elaboration processes (Van Knippenberg *et al*., 2004) to expedite decision-making is problematic given the extreme ambiguity, uncertainty and complexity which high levels of dynamism and low levels of munificence generate (Frank *et al*., 2017). In contrast, frequent opportunities for positive change (high dynamism) coupled with low levels of competitive intensity (high munificence) make strategic decision-making much more straightforward – lessening the need for resource draining information elaboration processes (Resick *et al*., 2014) and facilitating rapid decision-making.

A highly dynamic environment with low munificence mirrors Kahneman and Klein (2009) notion of a 'low validity environment'; characterized by highly irregular causal and statistical structures (threats driven by low munificence *and* with high uncertainty over their extent and form driven by dynamism). In such environments, rapid decision-making which forgoes thorough consideration of task relevant information risks decision errors and unfavorable decision outcomes (Kahneman and Klein, 2010; Elbanna *et al*., 2013). In a similar vein, the rapidity of change in dynamic contexts can present numerous decision options (Baum and Wally, 2003; Hough and White, 2003) which may initially have promise, yet are simply not feasible in low munificence contexts (Castrogiovanni, 1991). Hence, fast decision-making can squander precious resources on ultimately ineffectual strategic moves, which will be difficult if not impossible to correct (Miller and Friesen, 1983; Rajagopalan *et al*., 1993).

First mover advantages are more sustainable in highly munificent and highly dynamic contexts, since rivals enjoy high levels of managerial discretion (Hambrick and Finkelstein, 1987), and thus can pursue their own strategic openings, rather than being constrained to imitating first movers, as might be expected in highly dynamic and hostile contexts (Ruiz-Ortega and García-Villaverde, 2008). In contrast, limited environmental munificence weakens the merits of fast decision-making in highly dynamic contexts, because first mover advantages will be unsustainable. Owing to competitive intensity and scarcity of growth opportunities (Rosenbusch *et al*., 2013) which constrains managerial discretion (Goll and Rasheed, 1997), rival firms quickly imitate, thereby significantly limiting the first mover advantage. The preceding arguments suggest the following hypothesis:

Hypothesis 3. The positive relationship between decision speed and decision quality will be stronger for companies facing high environmental munificence and high environmental dynamism, and weaker for companies facing low environmental munificence and high environmental dynamism.

Methods

Sample and informants

We collected primary data from top managers using the Financial Access Made Easy (FAME[1]) database. We made initial telephone contact with top managers in 236 UK firms and each firm was subsequently sent a cover letter with two surveys, one for each of the two most senior members of the top management team who had major involvement in making a recent strategic decision for their firm. The first informant survey included measures for the independent variables, and the second informant survey

[1]FAME is "the most accurate and popular database of UK firms" (Souitaris and Maestro, 2010, p. 661), which provides access to the financial information on 11 million UK and Irish companies. FAME data is taken directly from Companies House, which is a Government department responsible for incorporating and dissolving companies, registering the information companies are legally required to supply, and making that information available to the public.

Table 1 Industries

Manufacturing		*Services*	
Industry	*Number of firms*	*Industry*	*Number of firms*
Aerospace	2	Accommodation	6
Chemicals and pharmaceuticals	6	Advertising and market research	2
Clothing	2	Construction	6
Concrete	1	Consultancy	15
Electronics	11	Financial services	9
Food	4	Funeral services	1
Furniture	2	Retail	7
Machinery and equipment	6	Travel	1
Metal products	11	Utilities	2
Modular buildings	1	Warehousing	1
Paper	1	Waste	1
Printing and recorded material	5	Wholesale	4
Rubber and plastics	4		
Textiles	1		
Wood and wooden products	5		
Total	62	Total	55

contained measures for the dependent variable, so as to mitigate common method bias. We received 117 fully completed first informant and second informant surveys, which is a 50% response rate.

The sample drawn from the FAME database comprised medium and large sized firms (between 50 and 500 employees[2]). We did so because small firms represent a unique strategic decision context, with a tendency towards informal decision-making that makes limited use of environmental information (Brouthers *et al*., 1998). In contrast, firms with over 500 employees have much more complex organizational systems that render the influence of the TMT's processes for any one single decision less salient (Simsek *et al*., 2005; Lubatkin *et al*., 2006). The mean number of employees for firms in our sample is 178, with a median of 151, and a range of between 50–489 employees.

While prior studies in the strategic decision-making literature are based predominantly on manufacturing firms, because the service sector represents a vital component of the UK economy and many other Western economies (Papadakis *et al*., 2010), we sampled all firms – incorporating manufacturing and services sectors – thereby maximizing variance in our environmental contingency variables (Samba *et al*., 2020) and extending the generalizability of our findings. Table 1 shows the industries included in our sample.

To protect the identities of respondents, and in line with the Social Research Association's ethical guidance, we guaranteed data would not be published or released in a form that would allow any informant's identity to be disclosed or even inferred. To mitigate social desirability bias, we repeatedly emphasized to informants that responses should be based on exactly what happened during the making of the decision, and not what they feel is the right answer or they believe should have happened. Finally, surveys were self-administered and informants all completed and returned them independently, further reducing the influence of social desirability bias (Nederhof, 1985).

We identified the focal strategic decision with informants through a series of preliminary meetings and telephone conversations, ensuring the nominated decisions met our definition of a strategic decision. We closely followed the approach of Elbanna and Child (2007a, 2007b) and we stressed that the decision must be recent enough to accurately recall events (Huber and Power, 1985), but where sufficient time had elapsed to be able to judge the outcomes of the decision. We also emphasized that the decision need not be a successful one (Wilson, 2010). When distributing surveys to our key informants, we also provided a written confirmation of the previously selected decision, and requested surveys be completed in relation to that particular decision. As a final check, we asked both informants to provide a detailed description of the decision. Strategic decisions in our sample fell into four types: new business investment decisions such as mergers and acquisitions (21%); investments in capital equipment such as new premises (10%); investment in the marketing domain such as support for new product launches (46%), and; internal reorganization investments such as corporate restructuring (23%).

Measures

Table 2 contains the definitions and measures for all constructs contained within our theoretical model. Since our focus was on decision-making, in accordance with

[2]Following the approach of the European Commission. Small firms: <50 employees; medium firms: 50–250 employees; and large firms: >250 employees.

Table 2 Construct definitions, measures and sources

Construct	*Definition*	*Data source*	*Measurement*	*Measure source*
Decision quality	The extent to which the decision attained its intended objectives (Amason, 1996).	Second informant	1. The quality of this decision relative to its original intent; 2. The quality of this decision given its effect on organizational performance; 3. The overall quality of this decision.	Amason (1996)
Decision speed	How quickly firms executed the strategic decision-making process in absolute terms, relative to rivals and relative to the external environment (Forbes, 2005; Clark and Maggitti, 2012).	First informant	1. The TMT made this decision quickly; 2. Given our competitive environment, the TMT moved quickly to make this decision; 3. Relative to rivals, it took the TMT too long to make this decision (reverse coded);	Clark and Maggitti (2012)
Environmental dynamism	An environment which is highly unpredictable with an unstable rate of change (Mitchell *et al*., 2011).	First informant	1. My business must rarely change its marketing practices to keep up with competitors; 2. The rate at which products/services are becoming obsolete in my industry is very slow; 3. Actions of competitors are quite easy to predict; 4. The set of competitors in my industry has remained relatively constant over the last 3 years; 5. Product/service demand is easy to forecast; 6. Customer requirements/preferences are easy to forecast. (All items reverse coded)	Mitchell *et al*., (2011)
Environmental munificence	An environment's ability to support sustained growth (Aldrich, 1979; Dess and Beard, 1984).	First informant	The business environment was: 1. Scale end-point anchors: Risky; a false step can mean the company's undoing vs. Safe; little threat to survival and well-being of the company. 2. Scale end-point anchors: Stressful, exacting, hostile; hard to keep afloat vs. Rich in investment and marketing opportunities; not at all stressful. 3. Scale end-point anchors: A dominating environment, in which your company's initiatives count for little against the forces of your business environment vs. An environment that your company can control and manipulate to its own advantage, (e.g., a dominant company in an industry with little competition and few hindrances).	Elbanna and Child (2007a)
Sector	Manufacturing or services sector.	FAME secondary data	Organizations with a manufacturing standard industry code are coded as a '1', and organizations with a services standard industry code are coded as a '0'.	Elbanna (2012);
Decision type	The subject of the decision.	Both informants	Detailed written description provided by informants and then coded as one of: (1) New business investment decision; (2) Investments in capital equipment; (3) Investment in the marketing domain; (4) Internal reorganization investment. All measured using (0/1) dummies.	Papadakis *et al*., (1998)
Procedural rationality	The extent to which the decision process involves the collection and analysis of information relevant to the decision (Dean and Sharfman, 1993).	First informant	1. How extensively did TMT members look for information in making this decision? 2. How extensively did TMT members analyze relevant information before making the decision? 3. There are some techniques which may be used to get more information for taking a decision (e.g., performing quantitative analysis, conducting feasibility studies, using consultants). To what extent did the TMT members rely on such techniques in making this decision? 4. How effective were TMT members at focusing their attention on crucial information and ignoring irrelevant information?	Elbanna and Child (2007a)

Table 2 *(Continued)*

Construct	*Definition*	*Data source*	*Measurement*	*Measure source*
Political behavior	Intentional acts of influence to enhance or protect the self-interest of individuals or groups (Allen *et al*., 1979).	First informant	1. Were TMT members primarily preoccupied by their own individual interests, or did they act in the interests of the company? 2. Were TMT members open with each other about their interests and preferences related to the decision? 3. Did TMT members use power to defend their interests and preferences? 4. Was the decision affected by bargaining among TMT members? 5. Did TMT members form alliances with each other in order to get their points of view on the table? 6. Did TMT members tend to hide and/or distort information to defend their points of view?	Elbanna and Child (2007a)
Intuition	Extent to which the strategic decision-making process is characterized by reliance on the non-conscious affectively charged judgments of top management team members (Dane and Pratt, 2007).	First informant	1. To what extent did TMT members rely mostly on personal judgment in making this decision? 2. To what extent did TMT members depend on a 'gut feeling' to make this decision? 3. To what extent did TMT members trust their hunches in making this decision? 4. To what extent did TMT members put a lot of faith in their initial feelings about how to proceed with this decision? 5. Did TMT members put more emphasis on feelings than data in making this decision?	Dayan and Elbanna (2011)
TMT cognitive diversity	Differences in beliefs and preferences of TMT members (Miller *et al*., 1998).	First informant	Extent to which TMT members disagreed about: 1. The best way to maximize the company's long-term profitability; 2. What the company's goal priorities should be; 3. The best way to ensure the company's long-term survival; 4. Which company objectives should be considered most important. (All items reverse coded)	Miller *et al*. (1998)
Firm size	Number of employees at the time the decision was taken (Dean and Sharfman, 1993).	FAME secondary data	Natural log of the number of full-time employees during the year in which the decision was made.	Dean and Sharfman (1993)
Past firm performance	Return on assets (ROA).	FAME secondary data	ROA averaged for the 5-year period prior to the year in which the decision was made, to reduce the chance of a 1-year aberration. To control for industry differences, the ROA measures were each divided by the mean ROA for the respective industry sector.	Papadakis *et al*. (1998).
Firm age	Number of years since incorporation.	FAME secondary data	Calculated using the natural log, and deducting the year of incorporation from the year in which the decision was made.	Autio *et al*. 2000

Note: All scale items were measured using 7-point Likert scales

Table 3 Means, standard deviations, internal consistencies, AVEs, and correlations

Variables	*Mean*	*S.D.*	*Alpha*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
1. Decision quality	5.68	1.25	0.91	**0.88**														
2. Decision speed	5.34	1.29	0.83	0.13	**0.79**													
3. Environmental dynamism	4.43	1.30	0.82	0.06	−0.13	**0.78**												
4. Environmental munificence	4.34	1.25	0.78	−0.08	−0.10	−0.09	**0.74**											
5. Procedural rationality	5.03	1.10	0.76	0.35***	−0.01	−0.02	−0.04	**0.70**										
6. Political behavior	2.42	1.01	0.74	−0.30**	−0.19*	−0.12	0.00	−0.20*	**0.58**									
7. Intuition	4.40	1.30	0.86	−0.11	0.09	−0.01	0.06	−0.59***	0.12	**0.74**								
8. TMT cognitive diversity	2.56	1.13	0.91	−0.32***	−0.08	−0.04	0.13	−0.28**	0.25**	0.14	**0.85**							
9. Past firm performance	1.09	3.25	-	0.01	0.15	−0.13	0.23*	0.08	−0.10	−0.14	0.01	-						
10. Firm size (Log)	4.99	0.63	-	0.07	−0.15	−0.17†	−0.09	0.06	0.01	−0.13	−0.09	0.06	-					
11. Firm age (Log)	2.73	1.10	-	−0.04	0.10	0.01	0.16†	0.07	0.00	−0.04	0.06	0.09	0.01	-				
12. Industry sector	0.53	0.50	Dummy (0/1)	0.04	−0.07	0.04	0.02	0.08	0.08	−0.06	−0.10	0.23*	0.07	0.16†	-			
13. Investment in new business	0.21	0.41	Dummy (0/1)	−0.09	−0.10	−0.10	0.19*	0.06	0.01	0.04	0.03	0.02	−0.07	−0.05	−0.12	-		
14. Investment in capital equipment	0.10	0.30	Dummy (0/1)	0.07	−0.03	−0.10	−0.10	0.08	0.00	−0.09	−0.06	0.02	0.20*	0.12	0.04	−0.17*	-	
15. Investment in the marketing domain	0.46	0.50	Dummy (0/1)	−0.03	0.12	0.11	0.00	−0.20*	−0.12	0.17†	0.00	−0.08	0.01	0.08	−0.06	−0.47***	−0.31*	-
16. Investment in reorganization	0.23	0.42	Dummy (0/1)	0.07	−0.02	0.04	−0.11	0.12	0.14	−0.18†	0.01	0.06	−0.09	−0.14	0.15	−0.28**	−0.19*	−0.51***

n = 117.

† $p < 0.10$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Variables 9–11 are measured using a single indicator and, hence, Alpha coefficients cannot be calculated.

Average variance extracted estimates are presented in bold on the diagonal.

recommendations in the literature (Boyd *et al*., 1993) we utilized perceptual measures to capture environmental dynamism and munificence. To mitigate against common method bias we collected our independent and dependent variables from different TMT informants, and for firm size, age, past performance and industry sector controls, we used secondary data. Our study design comprehensively controlled for a number of alternative influences on decision quality, including decision processes (procedural rationality, political behavior, and intuition), top management team variables (cognitive diversity), and firm variables (past performance,[3] size, and age). To account for the idiosyncrasy of the strategic decisions in our sample we utilized the Papadakis *et al*. (1998) classification and operationalized four dummy (0/1) variables for each of the decision types (new business investment decisions, investments in capital equipment, investment in the marketing domain and internal reorganization investments). Finally, because we sampled both manufacturing and services firms, we controlled for industry sector (manufacturing or services) effects with a dummy variable (0/1) following the approach of Elbanna (2012).

Results

Reliability and validity

Table 3 shows scale characteristics and correlations between variables.

The results of alpha coefficients range from 0.74 to 0.91 for all scales, demonstrating a satisfactory degree of internal consistency.

We assessed convergent validity using exploratory factor analysis, and subjected the measures to principal components extraction and direct oblimin oblique rotation. Because of the large number of items involved, in order to avoid violations of recommended ratios of cases to items (Bauer *et al*., 2001), we ran four sets of factor analyses (Hart and Banbury, 1994), with each set clearly identifying two factors (procedural rationality and political behavior; decision speed and intuition; environmental munificence and environmental dynamism; and cognitive diversity and decision quality).

[3]There is dissensus concerning the relationship between past performance and decision quality. Nutt and Wilson (2010, p. 649) argue that linking performance to decision quality 'calls for a blizzard of confounding factors in the study design, which are difficult if not impossible to identify or control'; and Elbanna (2006, p. 15) states: 'the overall economic performance of an organization may bear only a weak relationship to any individual decision'. Nevertheless there is precedent for the inclusion of past performance as a control variable (e.g., Cao et al., 2010; Carmelli et al., 2012; Mannor et al., 2016; Olsen et al., 2007). We therefore include firm performance as a control alongside firm size and age, thereby enabling us to comprehensively rule out alternative firm level influences on decision quality.

We followed Fornell and Larcker's (1981) procedure to establish the discriminant validity of our measures, using confirmatory factor analysis by calculating the average variance extracted (AVE) for each construct (see Table 3) and comparing it to the shared variance with each of the other constructs. In all instances, the AVE from each construct far exceeds the shared variance between any two constructs. The highest shared variance is 0.35 (between our controls procedural rationality and intuition). Moreover, the AVE for each of these constructs (procedural rationality 0.70, and intuition 0.74) far exceeds the shared variance. For our focal independent and moderator constructs, the AVEs are: decision speed 0.79, environmental dynamism 0.78, and environmental munificence 0.74. The shared variance between speed and dynamism is 0.02, between speed and munificence the shared variance is 0.01, and between dynamism and munificence the shared variance is 0.01. These results clearly demonstrate the measures attain discriminant and convergent validity, and indicates that there are no confounds between our focal constructs (Farrell, 2010).

Regression analysis

In keeping with the majority of strategic management research (Aguinis *et al*., 2017) we tested our hypotheses using multiple moderated hierarchical regression – by regressing the second informant's measure of decision quality onto blocks of the first informant's predictor variables. Table 4 shows four nested models, allowing us to highlight the explanatory power of the 3-way interaction (Dawson, 2014), as well as the two-way interactions, by isolating the additional variance explained when these interactive effects are each introduced into our model (using changes in R^2). Estimating the additional relative explanatory power for each model is useful as these demonstrate the incremental value of the newly theorized two and three-way interactions. In this way, we provide evidence of the utility of these interactive effects, since they have not been previously reported. The predictor variables were means centered to aid interpretation (Aiken and West, 1991). Variance inflation factor scores varied from 1.10 to 1.76, suggesting that multicollinearity is not a major concern.

Hypothesis one predicts a moderating effect of environmental dynamism whereby the relationship between decision speed and decision quality is more positive when the environment is dynamic. Results displayed in Table 4 (step 3) reveal that the interaction between decision speed and environmental dynamism is in the predicted direction ($\beta_{interaction} = 0.18$, $p < 0.05$) and, together with the other interaction term, explains a significant amount of additional variance in decision quality ($\Delta R^2 = 0.07$, $p < 0.01$). Thus, Hypothesis 1 is supported. To facilitate interpretation of this interaction,

Table 4 Results of regression analyses for dependent variable decision quality

Variables	*Step 1*	*Step 2*	*Step 3*	*Step 4*
Block 1: controls				
Industry sector	0.00	0.01	0.02	−0.01
Investment in new business	−0.08	−0.06	−0.08	−0.07
Investment in reorganization	0.08	0.08	0.10	0.06
Investment in capital equipment	0.05	0.05	0.04	0.06
Procedural rationality	0.36**	0.36**	0.35**	0.38***
Political behavior	−0.20*	−0.20*	−0.24*	−0.20*
Intuition	0.18	0.16	0.20†	0.20*
TMT cognitive diversity	−0.18†	−0.17†	−0.16†	−0.16†
Past firm performance	−0.02	−0.04	−0.03	0.02
Firm size	0.06	0.08	0.11	0.06
Firm age	−0.04	−0.05	−0.07	−0.05
Environmental dynamism	0.04	0.06	0.03	0.04
Environmental munificence	−0.01	0.01	−0.06	−0.04
Block 2: direct effects				
Decision speed		0.10	0.08	0.09
Block 3: two-way Interactions				
Decision speed × environmental dynamism (H1)			0.18*	0.15†
Decision speed × environmental munificence (H2)			0.24**	0.18†
Environmental dynamism × munificence				−0.17†
Block 4: three-way Interactions				
Decision speed × environmental dynamism × environmental munificence (H3)				0.23*
R^2	0.25	0.26	0.33	0.38
ΔR^2		0.01	0.07**	0.05*

$n = 117$.
† $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.
Investments in marketing were used as the base category and thus naturally excluded from the table

in Figure 2 we plotted relationships, indicating different levels of environmental dynamism by values one standard deviation above and below the mean (Aiken and West, 1991; Dawson, 2014). We also calculated the significance of the marginal effects of decision speed on decision quality over the range of environmental dynamism and we find that decision speed has a significant and positive effect on decision quality at values of dynamism +1 standard deviation (SD) above the mean ($t = 1.98$, $p < 0.05$) and at high levels of dynamism ($t = 2.08$, $p < 0.05$). At low levels of dynamism and at −1 SD, speed has a negative albeit non-significant effect on decision quality.

Hypothesis 2 proposes a moderating effect of environmental munificence whereby the relationship between decision speed and decision quality is positive, but stronger for companies facing high environmental munificence, and weaker for companies facing low munificence. Results displayed in Table 4 (step 3) reveal that the interaction between decision speed and environmental munificence is in the predicted direction ($\beta_{interaction} = 0.24$, $p < 0.01$) and, together with the other interaction term explains a significant amount of additional variance in decision quality ($\Delta R^2 = 0.07$, $p < 0.01$). Thus, Hypothesis 2 is supported. To facilitate interpretation of this interaction, in Figure 3 we again plotted relationships, indicating different levels of environmental munificence by values one standard deviation above and below the mean. We also calculated the significance of the marginal effects over the range of environmental munificence, and we find that decision speed has a significant and positive effect on decision quality at values of munificence +1 SD ($t = 2.32$, $p < 0.05$) and at high values of munificence ($t = 2.35$, $p < 0.05$). At low levels of munificence, decision speed has a negative non-significant effect on decision quality ($t = -1.31$, n.s.), and at +1 SD ($t = -0.66$, n.s).

Hypothesis 3 proposes a three-way interaction, or joint moderating effect, of environmental dynamism and munificence whereby the positive relationship between decision speed and decision quality is stronger for companies facing high environmental munificence and high environmental dynamism, and weaker for companies facing low environmental munificence and high environmental dynamism. Results displayed in Table 4 (step 4) show that the three-way interaction is in the

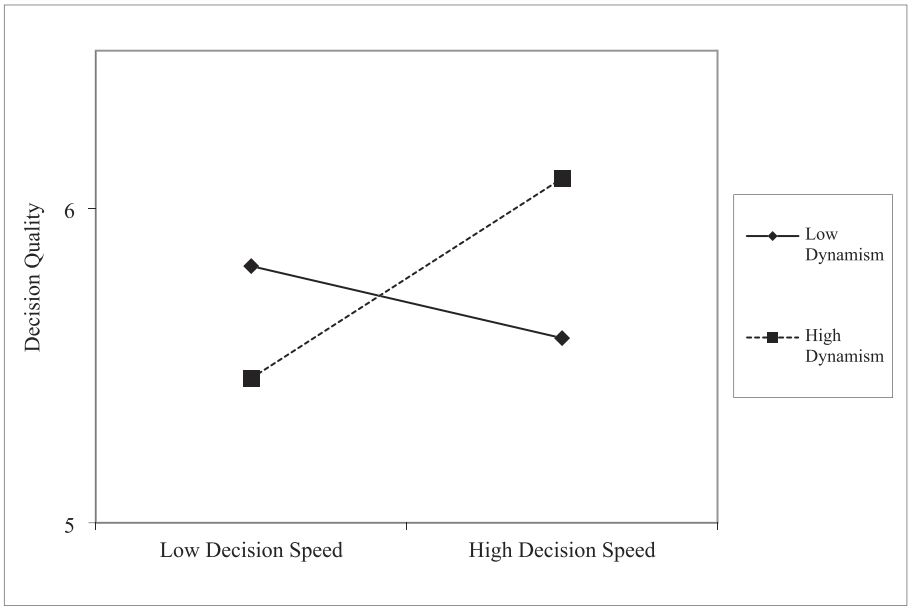

Figure 2 Interaction effect of decision speed and environmental dynamism on decision quality

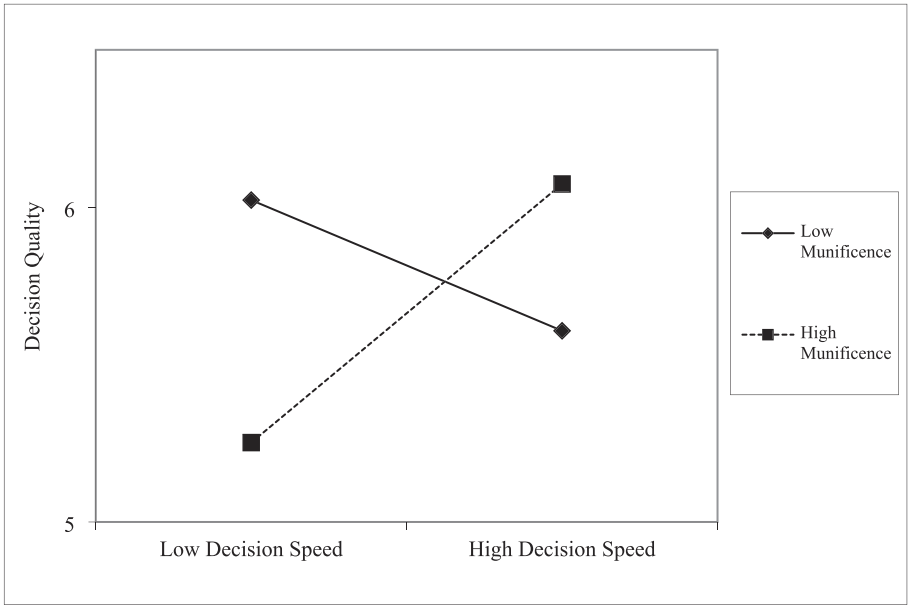

Figure 3 Interaction effect of decision speed and environmental munificence on decision quality

predicted direction ($\beta_{interaction} = 0.23$, $p < 0.05$), and explains a significant amount of additional variance in decision quality ($\Delta R^2 = 0.05, p < 0.05$). Thus, Hypothesis 3 is supported. To facilitate interpretation of this three-way interaction, in Figure 4 we again plotted relationships, indicating different levels of environmental dynamism and munificence, by values one standard deviation above and below the mean. The slopes provide strong support for hypothesis 3, since the coefficient of speed on decision quality is higher under conditions of greater dynamism and munificence (at high vales of both dynamism and munificence $t = 4.02$, $p < 0.001$, and at values +1SD $t = 4.03$, $p < 0.001$), which contrasts with the effects of speed under greater levels of dynamism and lower levels of munificence (at high vales of dynamism and low levels of munificence $t = -2.23$, $p < 0.05$).

Table 5 summarizes the marginal effects of decision speed on decision quality, over the range of environmental munificence and dynamism, and highlights that considering either dynamism or munificence in isolation

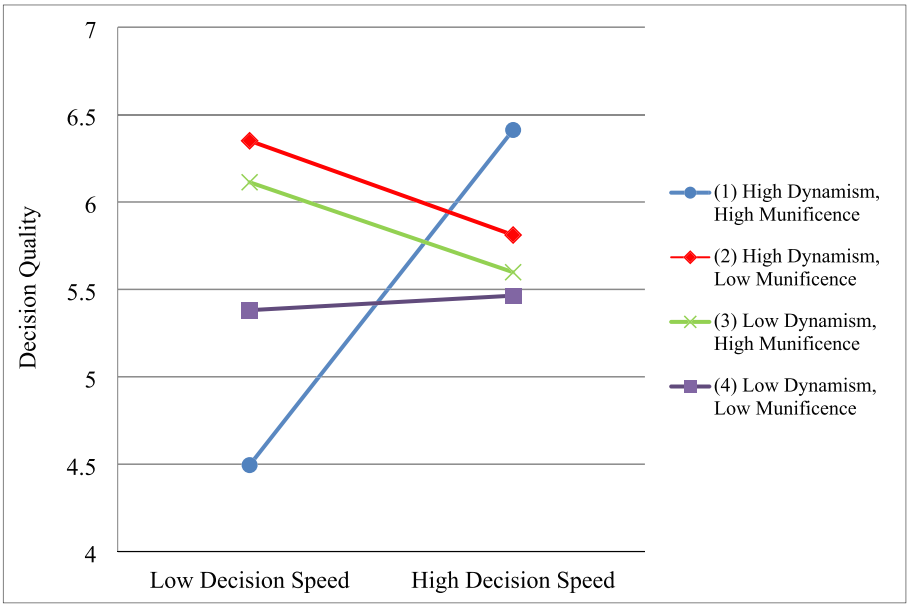

Figure 4 Three-way interaction effect of decision speed, environmental dynamism and environmental munificence on decision quality [Colour figure can be viewed at wileyonlinelibrary.com]

Table 5 Marginal effects of theorized scenarios

Scenario	*t value*	*p value*
1. High dynamism high munificence	4.02	0.000
2. High dynamism low munificence	−2.23	0.028
3. Low dynamism low munificence	0.87	0.386
4. Low dynamism high munificence	−1.78	0.078
5. High dynamism average munificence	2.08	0.040
6. Average dynamism high munificence	2.35	0.021
7. Average dynamism low munificence	−1.31	0.193

does not adequately account for the true effects of fast strategic decision-making. For instance, scenario 5 (equivalent to the two-way interaction between speed and dynamism in Hypothesis1) shows a statistically significant and positive effect of speed on decision quality when dynamism is high, but when munificence is moderate (mean average). However, scenario 2 then highlights the marked change in the interaction between speed and dynamism that occurs when low levels of munificence are introduced, as the *t*-value sign changes from 2.08, $p < 0.05$ (scenario 5) to −2.23, $p < 0.05$ (scenario 2). Likewise, the positive effects of speed in dynamic contexts are amplified under +1 SD levels of munificence and under high levels of munificence. For example, the *t*-value changes to 4.02, $p < 0.001$ in scenario 1, compared to 2.08, $p < 0.05$ per scenario 5.

A consistent pattern is also found when analyzing scenarios 6 and 7 (equivalent to the two-way interaction between speed and munificence in Hypothesis 2). In scenario 7, when dynamism is only moderate, speed has a negative yet non-significant effect in low munificence environments ($t = -1.31$, $p > 0.05$), however introducing high levels of dynamism as in scenario 2 significantly exacerbates the negative effects of speed in low munificence environments ($t = -2.23$, $p < 0.05$). Likewise as shown in scenario 6, when dynamism is moderate, speed positively influences decision quality in munificent environments ($t = 2.35$, $p < 0.05$), but these effects are significantly strengthened when high levels of dynamism are introduced in scenario 1 ($t = 4.02$, $p < 0.001$).

Endogeneity

We mitigate against reverse causality through our choice of decision quality as our dependent variable instead of performance, since performance can act as both an antecedent and an outcome of a decision process (Dean and Sharfman, 1996; Forbes, 2007); whereas decision quality avoids problems with ambiguity in causal ordering while providing a close link between decision process and decision outcomes (Elbanna, 2006). Nevertheless, we did empirically test for endogeneity using the Durbin–Wu–Hausman (D-W-H) test, per Davidson and MacKinnon (1993), and the result ($t = -0.28$, $p = 0.78$) suggests an absence of endogeneity.

Robustness test

Since our sample included a range of firm sizes (between 50–489 employees), we re-performed our regression analysis having removed 25 cases with >250 employees. The regression coefficients obtained for the sample with large firms removed are not significantly different from those obtained in the full sample, thereby providing

evidence that our regression results are not unduly biased by larger firms in our sample.

Discussion

In this study, we address the key question of whether decision speed helps or harms decision quality. In doing so, we contribute to the richness of understanding about the effects of the external environment on strategic decision-making. More specifically, we advance the strategic decision-making literature by tackling a problem that has hindered theory development: a sole focus on the moderating effects of environmental dynamism (Treffers *et al*., 2020; Samba *et al*., 2020), thereby omitting the influence of other important environmental contingencies, and in particular, environmental munificence (Goll and Rasheed, 1997; Shepherd and Rudd, 2014; Elbanna *et al*., 2020). In the present study we argue that since the external environment is complex and multi-dimensional, there is a need to study the effects of environmental dynamism and munificence in conjunction, rather than in isolation. Our theory contends that considering environmental dynamism or munificence in isolation provides only an incomplete account of the nuanced relationship between decision speed and decision quality.

Theoretical implications

Since the relationship between decision processes and outcomes is not a simple one, our study contributes to the emerging consensus regarding the need to build more complex theories concerning this relationship (Rajagopalan *et al*., 1993; Elbanna, 2006; Elbanna and Child, 2007b; Dykes *et al*., 2019; Strauch *et al*., 2019; Elbanna *et al*., 2020; Samba *et al*., 2020) – and in particular – of the need to focus attention on the moderating role of contextual variables (Elbanna and Child, 2007a; Shepherd and Rudd, 2014). More specifically, linking to the literature on environmental factors and decision speed (Eisenhardt, 1989; Judge and Miller, 1991; Baum and Wally, 2003), we have developed a comprehensive context-specific perspective (e.g., Goll and Rasheed, 1997 ; Mitchell *et al*., 2011) on decision speed, by building theory concerning the likelihood of fast decision-making yielding high quality outcomes across dynamic and munificent contexts. In doing so, we highlight that rather than speed being the panacea for organizations that management practitioners and advisers suggest (cf. Baum and Wally, 2003; Dykes *et al*., 2019); a more cautious view of speed is warranted, since our theory contends that speed is neither a universally positive nor universally negative phenomenon – but rather – the effects of decision speed are complex and conditional (Forbes, 2005).

Our multi-dimensional contingency approach contrasts studies that have emphasized the direct effects of decision speed and those that have focused solely on the moderating effects of environmental dynamism (e.g., Eisenhardt, 1989; Judge and Miller, 1991; Baum and Wally, 2003; Souitaris and Maestro, 2010). In contrast, we developed the argument that research needs to move away from a focus just on environmental dynamism (Treffers *et al*., 2020; Samba *et al*., 2020), and that dynamism should be considered in conjunction with other environmental contingencies, such as munificence (Goll and Rasheed, 1997; Mitchell *et al*., 2011). In adopting this approach our theory also helps to reconcile contradictory findings concerning decision speed, with some studies reporting negative consequences (e.g., Perlow *et al*., 2002; Forbes, 2005) and others showing evidence of more positive outcomes (e.g., Judge and Miller, 1991; Souitaris and Maestro, 2010). Our theory and evidence indicates that environmental munificence may at least in part explain some of these inconsistencies.

In sum, we theorize munificence as a previously unidentified moderator of the decision speed-quality relationship, which also transforms the interaction between speed and dynamism. The incorporation of a multidimensional account of the external environment (Bradley *et al*., 2011; Rosenbusch *et al*., 2013; Elbanna *et al*., 2020) has therefore enabled us to provide a richer and more comprehensive understanding of decision speed. Our most fundamental contribution is to explain that while prior theory (e.g., Eisenhardt, 1989; Judge and Miller, 1991; Baum and Wally, 2003; Souitaris and Maestro, 2010) contends that fast decision-making allows firms to seize first mover advantages in dynamic contexts; we theorize and find that munificence is the central generative mechanism determining the extent to which firms can *defend* such advantages, and the degree to which they can readily *correct* ineffective strategic choices. Hence, the true effects of decision speed are more complex than prior studies focusing on the sole moderating effects of dynamism (e.g., Eisenhardt, 1989; Judge and Miller, 1991), have allowed for. Our theoretical account also strengthens the theoretical bases of work in this area by drawing upon the concept of managerial discretion (Hambrick and Finkelstein, 1987), which is a well-developed theory, but previously unintegrated with the decision speed literature.

We also re-frame the debate to focus on the more immediate and direct effects of speed on decision quality, rather than on firm performance. While the majority of work on speed has utilized the firm as the level of analysis and examined performance as the outcome variable (Eisenhardt, 1989; Judge and Miller, 1991; Baum and Wally, 2003; Souitaris and Maestro, 2010), we contend that a micro-level approach, utilizing individual strategic decisions as the unit of analysis and decision quality as a

more proximal dependent variable, enables the development of more fine-grained theoretical insights. Further, using firm performance risks misaligning levels of analysis (Elbanna *et al*., 2020), and because performance is influenced by a far more extensive range of factors (Nutt and Wilson, 2010), the true effects of fast decision-making can be better isolated and understood by adopting a focus on decision quality.

Figure 4 illustrates how incorporating dynamism or munificence in isolation does not adequately account for the complex and contingent nature of the decision speed-decision quality relationship. Our theory development contends that first mover advantages, and the ability to rectify false moves, account for the significant benefits of fast decision making in highly dynamic and highly munificent environments. However, building on prior theory (e.g., Eisenhardt, 1989; Baum and Wally, 2003; Souitaris and Maestro, 2010), being the first mover does not appear to confer significant advantages in other contexts, but rather the situation is more complicated. For instance, in conditions of high dynamism and low munificence, there appears to be significant first mover *disadvantages*; because in such contexts, rivals are likely to imitate, having learnt from the actions and errors of the first mover (Zhu and Xu, 2011; Tran *et al*., 2012). Also, first movers have less scope to correct mistakes – which are much more likely given the potent and complex combination such conditions pose – and, although dynamism creates decision options, low munificence renders most unrealistic (Mitchell *et al*., 2011).

In the scenario of low dynamism but high munificence, fast movers might also be at a slight disadvantage; because of the sluggish and predictable nature of change in such contexts (owing to minimal dynamism), rivals easily catch up (Eisenhardt, 1989) – yet owing to the plentiful resources provided by munificence (Jancenelle, 2019) – rivals can invest in developing superior solutions. Further, minimal dynamism suppresses the benefits of speed in munificent contexts; because markets with minimal dynamism are stagnant, which constrains managerial discretion and incentivizes imitative behavior.

In conditions of low dynamism, and low munificence, there is some small benefit in fast decision-making, since firms need to move quickly so as not to miss scarce opportunities. However, given the costs of committing a false move (Rajagopalan *et al*., 1993), it may pay to be the second mover, learning from the first mover and benefiting from useful information generated from their actions (Tran *et al*., 2012). In this way, later movers can quickly overtake first movers, since they have greater discretion over technological and internal organization choices (Kopel and Löffler, 2008), as well as being able to observe initial market responses, and ultimately, avoiding the potentially fatal mistakes of the first mover (Zhu and Xu, 2011). Figure 5 further explicates and contextualizes the three-way interaction results shown in Figure 4.

Our final theoretical contribution adds to strategic decision-making theory by simultaneously lending support for strategic choice (Child, 1972) and environmental determinism perspectives (Hannan and

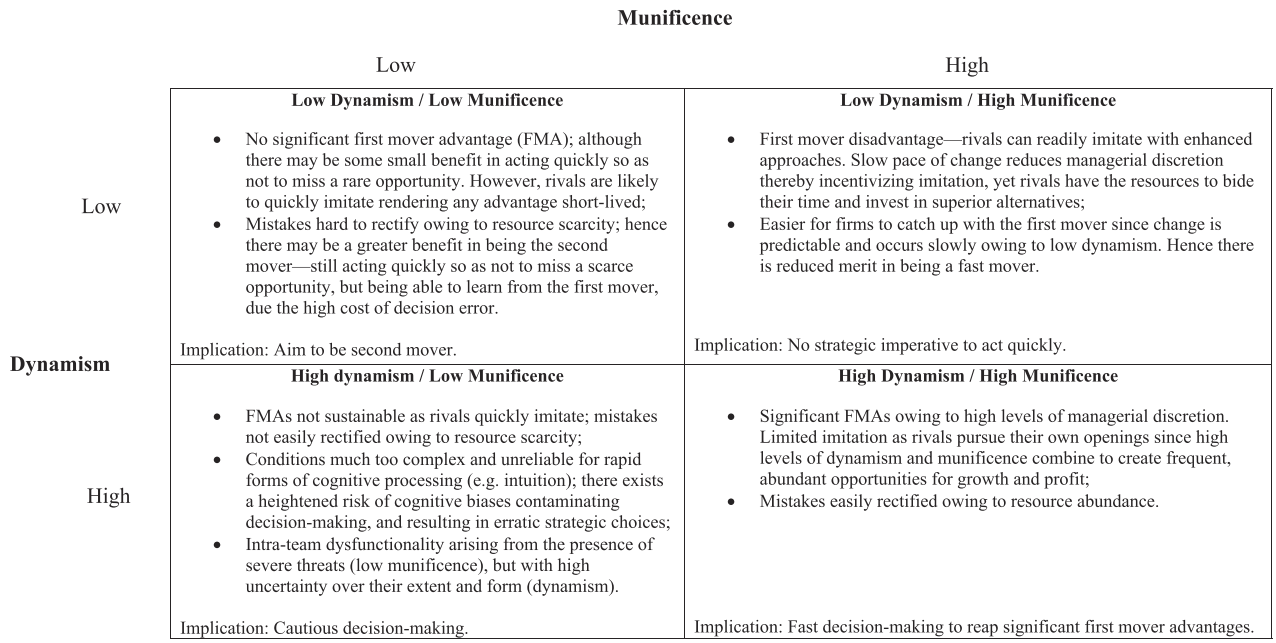

Figure 5 Implications of fast decision-making under different combinations of environmental dynamism and munificence

Freeman, 1977). Ultimately, our findings show that top managers do have a degree of discretion (Hambrick and Finkelstein, 1987) in their ability to influence decision success, but they must ensure that the speed with which they execute strategic change is carefully calibrated with the prevailing environmental conditions (Dykes *et al*., 2019). In sum, top management decision processes appropriate for certain environments are altogether inappropriate for other contexts.

Limitations and directions for future research

This study was carefully designed to provide valid and reliable results concerning the relationship between strategic decision speed and decision quality. We are not aware of any other studies of decision speed that follow our method – using a sample of real and recent strategic decisions, obtaining data from multiple informants, and examining the effects of decision speed on decision quality – while jointly modeling interactive effects of several key dimensions of the external environment. We also control for a series of well-established influences on decision quality, including procedural rationality and political behavior (Samba *et al*., 2020). In order to enhance the generalizability of our findings, we used the FAME database to sample a range of manufacturing and services industry sectors.

However, our study does have some limitations. Our study is cross-sectional, and a longitudinal research design would strengthen any claims concerning the causal link between making quick strategic decisions and the consequences of those actions. In addition, because the mean average size of the organizations in our sample is 178 employees (range 50–489), our ability to generalize to small, or very large organizations is limited.

While the focus of our theory development was on the contingent influence of *external* factors on the decision speed-decision quality relationship, future research could extend and build upon our findings in several interesting ways by focusing on *internal* factors. For example, although we controlled for past firm performance, this might not fully capture the potential influence of firm resources, and in particular, slack resources (Cyert and March, 1963; Bourgeois, 1981; Greenley and Oktemgil, 1998; Elbanna, 2012). We speculate that firms with greater levels of slack resources will not only perceive higher levels of munificence, but such firms will be better able to rapidly redeploy human resources, and quickly channel financial resources towards, for example, hiring consultants and commissioning feasibility studies; to speed up a rational process and maximize prospects of success. Slack resources also permit firms the luxury of not having to respond rapidly, but rather enables them to adopt a 'wait and see' approach in order to develop the most effective response (Milliken and Lant, 1991; Bowman and Hurry, 1993), and potentially secure more lucrative second mover advantages. Hence, slack might buffer firms in highly hostile and highly dynamic environments, while permitting experimental approaches in dynamic and munificent contexts (Bradley *et al*., 2011).

Although we controlled for firm size, future research might examine whether our results hold for samples featuring smaller firms. While decision processes are faster in small firms (Chen and Hambrick, 1995; Dean *et al*., 1998), such firms may lack the requisite capabilities to engage in fast yet procedurally rational decision processes (Brouthers *et al*., 1998) in order to secure first mover advantages. More specifically, small firms may lack absorptive capacity (Cohen and Levinthal, 1990) and associated stocks of leaning, knowledge and expertise (Zahra and George, 2002) to be able to execute fast yet effective strategic decisions. Given the significant influence of TMTs in small firms (Simsek *et al*., 2005; Lubatkin *et al*., 2006), a focus on TMT capabilities (Adner and Helfat, 2003; Helfat and Peteraf, 2015), such as TMT absorptive capacity (Van Doorn *et al*., 2017), may yield further insights into moderators of the decision speed-decision quality relationship, particularly in the context of small firms.

Future research might also consider employing alternative econometrical methods, such as structural equation modeling (SEM), which would be effective for examining a mediation model of decision speed, encompassing its antecedents and outcomes. Given our focus on moderation rather than mediation, we employed regression analysis to isolate the additional variance explained when introducing our interaction terms, and owing to our sample size, which might generate invalid SEM estimations (Anderson and Gerbing, 1984; Nasser and Wisenbaker, 2003; Mooi *et al*., 2018). However, SEM has the relative advantage over regression analysis by being able to infer process through the simultaneous examination of multiple relationships, where, for example, decision speed may act as a mediator.

Our study addresses a major shortcoming in the literature, by adopting a multidimensional conceptualization of the external environment (Rajagopalan *et al*., 1993; Elbanna, 2006), incorporating not just the pace of change, but resource levels and growth opportunities too. Notwithstanding this contribution, there are inherent limitations in reducing such complex and nuanced external factors, such as munificence and dynamism, to a relatively small set of survey items. Given the vast number of potentially salient factors at play in the external environment; future research may therefore consider developing measures to enable the separation of, for example, munificence and dynamism into different sources such as: growth rates, levels of competition, the firm's position within the industry, levels of industry innovation, and regulatory change. Such an approach

would though necessitate large sample sizes, particularly if a range of industries are sampled. Finally, qualitative approaches utilizing interviews with elite informants (Aguinis and Solarino, 2019) offers a complementary approach to quantitative methods; and provides a means of deriving unique in-depth insights into top managers' perceptions of environmental factors, and how such factors influence the speed of strategic decision-making.

Further, environmental factors that larger firms pay close attention to (e.g., the latest trends in international trade, regulation and competitors' marketing practices) may be less relevant for smaller firms whom tend to focus more on internal factors (Kelly *et al*., 2000), make only limited use of environmental information (Brouthers *et al*., 1998) and only respond to environmental change once the trend is firmly established (Hankinson *et al*., 1997). It would be useful therefore for future research to begin to develop measures of the external environment that comprise items directly relevant to small firms.

Finally, although we purposefully sampled a variety of different industries and decisions to enhance the generalizability of our findings, future research might focus on specific industries (e.g., industries especially high or low in munificence) and specific decisions. The structure and characteristics of strategic decisions vary across different industries; for example new business venturing decisions differ significantly in the mining industry compared to more creative R&D based industries (Bakker and Shepherd, 2017). Hence focusing on a particular type of decision in a specific industry will further refine theories of decision speed.

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